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What is claimed is:

1. A method of detecting the premature rupture of amniotic membrane comprising testing vaginal fluid for pH and determining a result as an irreversible change in a testing medium.
- 10 2. The method of claim 1 wherein said irreversible change is a color change.
3. The method of claim 1 wherein said irreversible change is production of a hydrogel.
4. The method of claim 2 wherein said testing for pH is performed using liposomes that undergo an irreversible hyperchromic spectral shift in response to an elevated environmental pH.
- 15 5. The method of claim 4 wherein said elevated pH is a pH of at least 6.
6. The method of claim 4 wherein said elevated pH is a pH of at least 7.
7. The method of claim 4 wherein said liposomes are selected from the group consisting of 10,12-pentacosadiynoic acid derivatized with glutamic acid, and 3-(dimethylamino)propylamine.
- 20 8. The method of claim 2 wherein said testing is performed using the steps of encapsulating a pH insensitive dye with a pH sensitive encapsulating material.
9. A method of detecting the premature rupture of amniotic membrane, comprising:  
a first step selected from the group consisting of testing vaginal fluid pH and determining a result as an irreversible change, detecting amniotic fluid analyte in vaginal fluid, detecting hydrogen peroxide in vaginal fluid, and detecting cholesterol in vaginal fluid; and,  
a second step, different from said first step, and selected from the group consisting of testing vaginal fluid pH and determining a result as an irreversible change, detecting amniotic fluid analyte in vaginal fluid, detecting hydrogen
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5 peroxide in vaginal fluid, and detecting cholesterol in vaginal fluid, wherein said  
first and second steps indicate premature rupture of amniotic membrane.

10. The method of claim 9 further comprising a third step, different from the first and  
second steps, and selected from the group consisting of testing vaginal fluid pH  
and determining a result as an irreversible change, detecting amniotic fluid  
10 analyte in vaginal fluid, detecting hydrogen peroxide in vaginal fluid, and  
detecting cholesterol in vaginal fluid.

11. The method of claim 9 wherein one of said steps is detecting amniotic fluid  
analyte in vaginal fluid, which results in a color change.

12. The method of claim 11 wherein said analyte is chosen from the group consisting  
15 of alkaline phosphatase, diamine oxidase, monoamine oxidase, pepsinogen,  
alpha-galactosidase, alpha-fucosidase, amylase, alpha-mannosidase, lysozyme,  
phosphatidic acid, phosphohydrolase, fetal fibronectin, alpha fetoprotein,  
collagen breakdown pads, estradiol, active ceruloplasmin, adrenomedullin,  
insulin-like growth factor-binding protein, inhibin B, human chorionic  
20 gonadotropin, human placental lactogen, granulocyte elastase, prolactin,  
fructose-based fatty acids, phospholipids, lecithin, uric acid, urea, creatinine and  
rennin.

25 13. The method of claim 9 wherein one of said steps is detecting hydrogen peroxide  
in vaginal fluid and said detecting of hydrogen peroxide results in a color change.

14. The method of claim 13 wherein said color change is produced by a reaction  
between said hydrogen peroxide and a peroxidase substrate.

25 15. The method of claim 9 wherein one of said steps is detecting cholesterol in  
vaginal fluid and said detecting of cholesterol results in a color change.

16. The method of claim 15 wherein said color change is produced by a series of  
30 enzyme-based reactions including 4-aminocantipyrine.

5        17. The method of claim 9 comprising detecting amniotic fluid analyte in vaginal fluid by depositing a ligand receptor for an analyte in a first area of a feminine hygiene pad, depositing a receptor specific to an alternate site on the analyte in a second area of said pad, and;

10      testing for pH by depositing cross-linked liposomes in a third area of said pad, wherein fluid entering said pad is channeled to the ligand receptor deposit, then to the alternate site receptor and then to the third area of said pad, resulting in a visual indication of PROM.

15      18. The method of claim 9 comprising encapsulating an analyte sensitive dye within a capsule made from a pH sensitive encapsulating material with a pKa greater than 6.5 and less than 7, wherein said capsule releases said analyte sensitive dye and said dye changes color in amniotic fluid.

20      19. The method of claim 9 comprising encapsulating a pH sensitive dye within a capsule made from an analyte sensitive encapsulating material, wherein said capsule releases said pH sensitive dye and said dye changes color in amniotic fluid.

25      20. The method of claim 9 comprising coupling alpha-galactoside to phenolic groups of a phenolphthalein, wherein said alpha-galactosidase is cleaved and the phenolphthalein changes color in amniotic fluid.

21. The method of claim 20 further comprising the step of encapsulating alpha-galactosidase coupled phenolphthalein within an analyte sensitive capsule.

22. A feminine hygiene article comprising indicators selected from the group consisting of pH sensitive liposomes and pH sensitive capsules having a pH insensitive dye within.

5        23. A feminine hygiene article comprising a ligand receptor for an analyte deposited in a first area of the article and a receptor specific to an alternate site on the analyte in a second area of said article, wherein fluid entering said article is channeled to the ligand receptor deposit and then to the alternate site receptor, resulting in a visual indication of said analyte.

10      24. The article of claim 23 wherein said analyte is selected from the group consisting of alkaline phosphatase, diamine oxidase, monoamine oxidase, pepsinogen, alpha-galactosidase, alpha-fucosidase, amylase, alpha-mannosidase, carbohydrate-based enzymes, lysozyme, phosphatidic acid, phosphohydrolase, fetal fibronectin, alpha fetoprotein, collagen breakdown articles, estradiol, active ceruloplasmin, adrenomedullin, insulin-like growth factor-binding protein, inhibin B, human chorionic gonadotropin, human placental lactogen, granulocyte elastase, prolactin, fructose-based fatty acids, lipids, uric acid, urea, creatinine and renin.

15      25. The article of claim 23 comprising a hydrazine and a galactoside acetal of a ketone-containing polymer, and a buffer, wherein said acetal is enzymatically hydrolyzed by amniotic fluid, and the ketone is liberated to react with the hydrazine to form hydrazone.

20      26. A lateral flow test for the detection of PROM comprising liposomes that undergo an irreversible hyperchromic spectral shift in response to an elevated environmental pH in first location on said lateral flow test and a peroxidase substrate in a second location on said test, wherein a sample of fluid passes through said first and second locations by capillary action.

25      27. A cell button device having a pH side and a peroxide side, wherein a sample of fluid introduced on the pH side will indicate a pH and then pass to the peroxide side and indicate peroxide.

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